

## CLAIMS

1. A dishwasher (1) comprising a washing tub (2) where the appliances are put, a sump (3) under the washing tub (2) where the water in the washing tub (2) is collected during the washing process, a memory (10) to which the parameters to be compared are loaded, a microprocessor (9) which compares the signals with the parameters loaded to the memory (10) and forwards the result of the comparison and a control unit (11) which arranges the washing program with respect to the data obtained from the microprocessor (9) characterized with a biosensor (7) which detects the microorganisms in the washing water.
2. A dishwasher (1) as in Claim 1 characterized in that the biosensor (7) is placed in a measurement chamber (8) which is suitable for taking as much samples as required for measurement from the sump (3) in every cycle of the washing process.
3. A dishwasher (1) as in Claim 1 characterized with a memory (10) comprising the acceptable maximum microbiologic pollution rates (MBN0, MBN1, MBN2, MBN3) preloaded by the producer in that the microbiologic pollution rate (MBN) measured by the biosensor (7) in the washing cycles is compared.
4. A dishwasher (1) as in Claim 1 and 3 characterized with a memory (10) comprising the temperature values (TP1, TP2, TP3, TP4) which are preloaded by the producer and applied in the washing cycles with respect to the results of the comparison with the limit values of the microbiologic pollution rate (MBN) measured by the biosensor (7) in the washing cycle.
5. A dishwasher (1) as in Claim 1 and 3 characterized with a memory (10) comprising the circulation periods (TS1, TS2, TS3, TS4) which are preloaded by the producer and applied in

the washing cycles with respect to the results of the comparison with the limit values of the microbiologic pollution rate (MBN) measured by the biosensor (7) in the washing cycle.

- 5                   6.     A control method for a dishwasher (1) as in any of the claims above comprising the steps of the measurement of the microbiologic pollution rates (MBN) by the biosensor (7) in at least one of the washing cycles such as pre-washing, main washing and rinsing; the comparison of MBN with the limit values; accordingly the change of temperature and/or period and/or repetition number to reduce MBN below the limit values if measured MBN is higher than the limit values and the continuation of the washing period under the predetermined conditions if MBN is lower than the limit values.
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7.     A control method for a dishwasher (1) as in Claim 6 characterized in that the washing water is sterilized if the microbiologic pollution rate (MBN) can not be lowered to the required level by the changes in temperature and/or period.
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8.     A control method for a dishwasher (1) as in Claim 6 or 7 characterized in that the washing water is changed and the washing cycle is repeated, if the microbiologic pollution rate (MBN) can not be lowered to the required level by the changes in temperature and/or period.
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9.     A control method for a dishwasher (1) as any of the Claims above comprising the steps below
- 25                   -     The user starts the washing cycle (100),
- The user selects either the pre-washing or without pre-washing program (101),
- If the without pre-washing program is selected, main washing cycle is started (106),
- 30                   -     If the pre-washing program is selected, then the pre-washing program is started (102),

- Microbiologic pollution rate (MBN) is measured by the biosensor (7) (103),
- MBN is compared with the limit value of the acceptable microbiologic pollution rate (MBN1) for the pre-washing (104),
- 5 - If  $MBN < MBN1$ , main washing cycle (106) is started (106),
- If  $MBN > MBN1$ , a second pre-washing cycle is started (105),
- Main washing cycle is started (106),
- Microbiologic pollution rate (MBN) is measured by the biosensor (7) (107),
- 10 - MBN is compared with the limit value of the acceptable microbiologic pollution rate (MBN2) for the main washing (108),
- If  $MBN < MBN2$ , main washing cycle is started in TP1 temperature value and TS1 circulation period (109),
- If  $MBN > MBN2$ , main washing cycle is started in TP2
- 15 temperature value and TS2 circulation period (110),
- Rinsing cycle is started following the main washing (111),
- Microbiologic pollution rate (MBN) is measured by the biosensor (7) (112),
- It is checked whether the microbiologic pollution has reached the
- 20 inefficient level or not (113),
- If  $MBN = MBN0$ , the rinsing water is discharged (200),
- If the microbiologic pollution is detected ( $MBN > MBN0$ ), MBN is compared with the limit values (MBN3) of the acceptable microbiologic pollution rate for the rinsing cycle
- 25 (114),
- If  $MBN > MBN3$ , second rinsing cycle is started (118),
- If  $MBN < MBN3$ , rinsing cycle is started in TP3 temperature value and TS3 circulation period (115),
- Microbiologic pollution rate (MBN) is measured by the
- 30 biosensor (7) (116),

- It is checked whether the microbiologic pollution has reached the inefficient level or not (117),
  - If  $MBN=MBN_0$ , the rinsing water is started to be discharged (200),
  - 5     - If  $MBN>MBN_0$ , second rinsing cycle is started (118),
  - Microbiologic pollution rate (MBN) is measured by the biosensor (7) (119),
  - It is checked whether the microbiologic pollution has reached the inefficient level or not (120),
  - 10     - If  $MBN=MBN_0$ , the rinsing water is started to be discharged (200),
  - If  $MBN > MBN_0$ , second rinsing cycle is started at TP4 temperature value and TS4 circulation period (121),
  - Microbiologic pollution rate (MBN) is measured by the biosensor (7) (122),
  - 15     - It is checked whether the microbiologic pollution has reached the inefficient level or not (123),
  - If  $MBN=MBN_0$ , the rinsing water is started to be discharged (200),
  - 20     - If  $MBN > MBN_0$ , the washing water is sterilized (124),
  - Sterilized water is used for rinsing during TS5 circulation period (125),
  - The rinsing water is discharged (200),
  - The drying cycle is started (201),
  - 25     - The cycle is ended (202).
10. A control method for a dishwasher (1) as in Claim 9 wherein the washing water is sterilized by UV (Ultraviolet) technique in the sterilization cycle (124) of the washing water if  $MBN>MBN_0$ .
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